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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,947	12/15/2003	Sung-Ho Choi	8021-185 (SS-19160-US)	3710

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WOODBURY, NY 11797

EXAMINER

LUU, PHO M

ART UNIT	PAPER NUMBER
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2824

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,947

Applicant(s)

CHOI SUNG HO

Examiner

Pho M Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-24 is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 5-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Search History.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1-2 should be designated by a legend such as **–Prior Art–** because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it uses the phrase "including" in line 4, which is implied. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Takemae. (US. 4,768,193).

Regarding claim 1, Takemae in Figure 3A-3B discloses a semiconductor memory device comprising:

a plurality of normal cell blocks (MCA, Figure 3A) including a plurality of normal memory cell (MCoo, Figure 3A) for storing data;

a plurality of redundancy cell blocks including a plurality of redundancy memory cells for substituting for defective (RCA, Figure 3B) normal memory cell (see column 6, lines 3-7); and

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at least one ECC cell block (HPA, Figure 3A) including a plurality of ECC memory cell for substituting for the defective normal memory cell in response to a mode signal (see column 7, lines 5-10).

With respected to claim 4, Takemae disclosed the semiconductor memory device including the mode signal is generated when a predetermined fuse is cut (see column 8, lines 57-64).

Allowable Subject Matter

7. Claims 2-3, 5-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the prior art of record do not disclose or suggest the substituting for the defective normal memory cells after each of the plurality of redundancy memory cells has been used for substituting for the defective.

Regarding claim 3, the prior art of record do not disclose or suggest the mode signal is generated when a bonding option occurs.

Regarding claim 5, the prior art of record do not disclose or suggest at least one repair circuit for severing a connection between at least one normal data line of the plurality of normal data lines and at lest one normal cell block of the plurality of normal cell block in response to the mode signal.

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Regarding claim 9, the prior art of record do not disclose or suggest a plurality of ECC transmission gate for connecting the plurality of ECC bit line to the plurality of ECC data line.

Regarding claim 13, the prior art of record do not disclose or suggest a bit configuration indicating a number of data bits one of input to and output from semiconductor memory.

9. Claims 14-24 are allowed.

The following is an examiner's statement of reasons for allowance:

There is no teaching or suggestion in the prior art to: "at least one repair circuit for controlling the at least one ECC cell block and the first plurality of ECC memory cells, whereby the first plurality of ECC memory cells are used for substituting for defective normal memory cells in response to a mode signal, and are not used for storing ECC data" as claimed in the independent claim 14; or

"at least one third level cell block including a plurality of third level memory cells for substituting for the defective first level memory cells in response to a mode signal" as claimed in the independent claim 21.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Raynham (US. 6,418,068) disclosed self healing memory device including multiple banks of memory arrays which is each bank includes a plurality of primary storage cells and a spare unit of spare storage cell in memory.

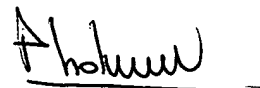
11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Pho M. Luu whose telephone number is 571.272.1876. The examiner can normally be reached on M-F 8:00AM – 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Richard Elms, can be reached on 571.272.1869. The official fax number for the organization where this application or proceeding is assigned is 703.872.9306 for all official communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pmf

PML
13 October 2004



Pho M. Luu
Patent Examiner
Art Unit 2824